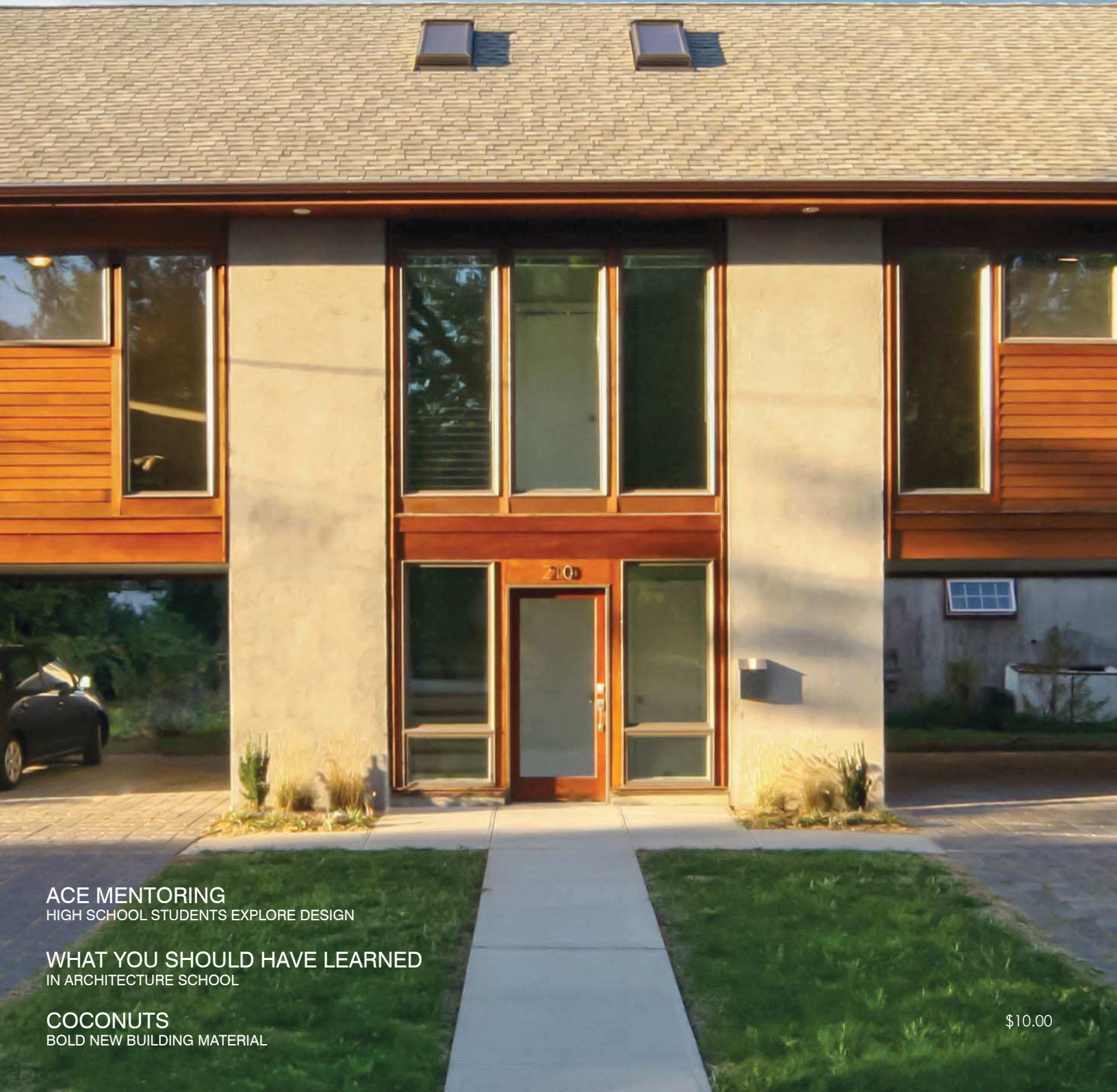


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ACE Mentor Program

Advancing the Future Workforce

BY KATIE CHEVALIER, AIA, LEED BD+C

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KATELYN AMARAL
DANIEL EASTMAN

It's no secret that the design and construction industry has taken off, and we all know that finding qualified candidates to help fill our offices can be challenging at best. Have you ever stopped to think about the next generation of designers, and where they are right now in life? In order to help ensure the future success of our industry workforce, we need to focus on today's youth. That is the mission of the ACE Mentor Program of America, to engage, excite and enlighten high school students to pursue careers in architecture, engineering, and construction through mentoring and to support their continued advancement in the industry.

The ACE Mentor Program was founded 23 years ago by Charles Thornton in New York City. Mr. Thornton recognized the need to provide high school students interested in our industry with real world experience and mentorship to keep them engaged, excited, and educated. Today, the program has grown to over 70 affiliates throughout the country, serving over 9,000 high school students each year who are considering entering the fields of design, engineering, construction, and the trades. The ACE Mentor Program of America is a national, non-profit organization that

supports local affiliates around the country. ACE is the construction industry's fastest growing high school mentor program in the nation. ACE also financially supports students furthering their education through scholarships and grants, and has provided over \$15 million in scholarships since the program's inception.

Personal Background

Personally, my involvement with ACE began over 12 years ago. I am a proud alumna of the Albany, NY ACE affiliate. I participated in ACE during my sophomore, junior, and senior years of high school. ACE provided me with an invaluable experience at a young age to explore my interest in architecture prior to applying for college. Having firsthand knowledge of the many benefits that ACE students receive, I have always had a desire to give back in the same way that my ACE mentors did for me. I have held several roles with different ACE affiliates, including mentoring for the Denver, CO and Albany, NY affiliates.

Most recently, I co-founded a new affiliate in the Hudson Valley, NY region. I serve as the Vice Chairman and Newburgh Team Leader for the Hudson

Valley affiliate, serving Rockland, Orange, Ulster, Sullivan, Dutchess, and Putnam counties (Westchester County is served by the Greater New York City affiliate). We recently finished our inaugural year, in which we provided mentorship to 52 students throughout the Hudson Valley. It is extremely fulfilling to know that I helped provide an opportunity for high school students to learn about design and construction, and hopefully develop an interest in advancing their education and pursuing a career in the industry.

Hudson Valley Affiliate Overview

Prior to 2016, the state of New York was served by 3 affiliates in New York City, Albany, and Rochester. Last year, I was privileged to join forces with a local contractor to bring ACE to the Hudson Valley. Thanks to our ACE Regional Director, I was introduced to Erik Collier of Collier Construction, who had heard about ACE and was also interested in making this opportunity available to high school students in the Hudson Valley.

Erik and I worked diligently with the support of many local organizations, and established ACE Mentor Program



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of Hudson Valley NY in June 2016. This would not have been possible without the generous support and financial contributions from companies throughout the Hudson Valley that understood the importance of our mission. We completed our first year of ACE in the Hudson Valley with great success. Over 3 teams, we had 52 high school students and 20 mentors that met every other week from September through May. Each team worked with industry professionals serving as mentors to develop real-world, local community design projects. Each team met every other week for a total of 15 sessions throughout the school year.

While ACE strives to support all students, there is an emphasis on increasing diversity in the industry by supporting those who are traditionally underrepresented in the fields of design and construction. We are proud that in our first year, the Hudson Valley affiliate served a student population of 25% female students and 35% minority students.

Team Newburgh

ACE Team Newburgh was led by Katie Chevalier of Steven Winter Associates. Team Newburgh had mentors from CSArch, Profex Construction, John



Team Newburgh students presenting their preliminary site plan sketches

Herbert Company, Cornwall Central School District, Tectonic Engineering, and Michael Berta Architects. This team had 21 students throughout the course of the year from Newburgh Free Academy, Cornwall Central High School, John Jay Senior High School, Clarkstown North High School, Clarkstown South High School, Arlington High School, and Our Lady of Lourdes High School.

Team Newburgh was fortunate to meet at several different locations throughout the course of the year, including professional offices, local construction site tours, and the Newburgh Free Academy (NFA) architecture computer lab. Due to the generosity of John Etri, Director of Career and Technical Education with the Newburgh Enlarged City School District, and Matthew Schweizer, Architecture and Technology teacher at Newburgh Free Academy, the students had access to computers with Revit software throughout the year.



ACE Mentor Program of Hudson Valley Board of Directors at the Kick-Off Breakfast Informational Event last August; from left: Erik Collier, Katie Chevalier, Thomas Ritzenthaler, Adam Ramli



Team Newburgh students developing their Revit model with mentor Paul Hoffner of John Herbert Company

This group was split into teams to develop five different design proposals for a new boathouse on the Hudson River for the NFA Crew Team. Team Newburgh started out the year with a site visit to an open lot along the Hudson River, the site for which they would ultimately design their boathouses. We met every other week during the school year and heard from several industry leaders on site planning, civil engineering, architecture, structural engineering, MEP engineering, construction, and public speaking.

Students were also fortunate to tour two different construction projects in Newburgh; the renovation of a private residence led by Collier Construction, and the construction of a new fire station for Good Will Fire District led by CSArch and Meyer Contracting. Team Newburgh was also given an introduction to Revit tutorial, and were able to complete the design of their boathouse using this advanced digital modeling tool.



ACE students tour the Orange County Government Center



Construction tour of the new fire station for Good Will Fire District in Newburgh



Team Middletown presents a model of their design proposal for the Heritage Walkway Trail



ACE mentor Charles Wilson of CSArch teaches students how to take field measurements on the job-site in Newburgh

Team Middletown

ACE Team Middletown was led by Charles Wilson of CSArch and Erik Collier of Collier Construction. Guest speakers were from Servpro, Orange County Government and Hudson Valley DKI. This diverse group of approximately ten students were from Central Valley, Monroe Woodbury, Chester and Florida School Districts. Additionally, some of the students also attended Orange - Ulster BOCES.

The year-end project for this team was a spur off of the Heritage Walkway Trail. This was based on an actual \$10 million state grant to revitalize downtown

Middletown. Throughout the ACE year, students attended a public work session, visited job-sites in Newburgh and Goshen, conducted research at Thrall Public Library, and toured the businesses along the Heritage Trail Spur.

In addition to the final year presentation, students also built a physical model of the project. Students were exposed to the industry through videos, drawings, computer systems, and discussions of industry professionals. This was done at contractor's and architect's offices to help students gain a better understanding of real world working environments.

Team Pine Bush

ACE Team Pine Bush consisted of twenty students from Pine Bush High School, Ellenville High School, and John S. Burke High School. The team was led by Katelyn Amaral of RL Baxter Building Corporation and Geoff Joray of Collier Construction. The students were assigned an empty lot within the Pine Bush school property and were asked to design a student center. The center would be a structure detached from the main school building that could be used for extracurricular activities, study sessions, group meetings, and presentations.

The team was hosted by Pine Bush



A working session of Team Pine Bush



Dr. John Wolbeck welcomes ACE Hudson Valley to SUNY Orange for the final presentation event



Team Pine Bush presents their design proposal for a new Student Center at the final presentation event

Equipment and met every other week to develop the project. Throughout the year, students learned about the roles of the many careers within the AEC industry. Starting from the ground up, students learned about different foundation styles and structural supports. Students developed floor plans and tried to determine the best layout based on how the spaces would be used. Team Pine Bush learned about space planning, engineering, zoning, estimating throughout the project. Interactive activities included a toothpick and gumdrop structure challenge. The last few weeks were spent exploring materials and products as well as learning the budgeting and estimating process.

Field trips for these students included a job-site tour in Newburgh, Orange County Government Building tour,

and Town of Crawford Planning Board Session. A few students on Team Pine Bush had parents in the industry and were familiar with basic concepts of architecture, construction, and engineering, while many other students were learning about it all for the first time. This project had something for everyone and demonstrated just how many professions are involved in design and construction.

Final Presentations

On May 11, 2017, all three teams gathered at SUNY Orange in Middletown to present their respective projects to mentors, teachers, sponsors, families, and friends. At the beginning of the event, light refreshments were provided during a networking hour, where students and

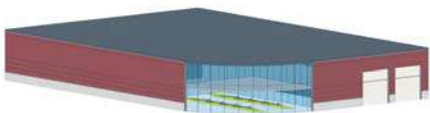
mentors alike were given the opportunity to celebrate the culmination of 9 months of hard work.

The event was held in the new state-of-the-art Rowley Center for Science, Engineering, and Architecture on the SUNY Orange Middletown campus. Building tours were provided so attendees could see the new LEED® Gold certified building and learn about the advanced technology and equipment that is used in the architectural and engineering programs.

After a warm welcome from Dr. John Wolbeck, Chair of the Science, Engineering, and Architecture Department at SUNY Orange, each team took turns presenting their hard work from the past year. With over 100 people in the audience, the students took pride in describing the design process they went through to reach their final design proposal.



ACE mentor Geoff Joray of Collier Construction leads students on a tour of a historic residential renovation in Newburgh



Design proposal for a new boathouse for the NFA Crew Team, developed in Revit by Gianna Lozano and her team (above)

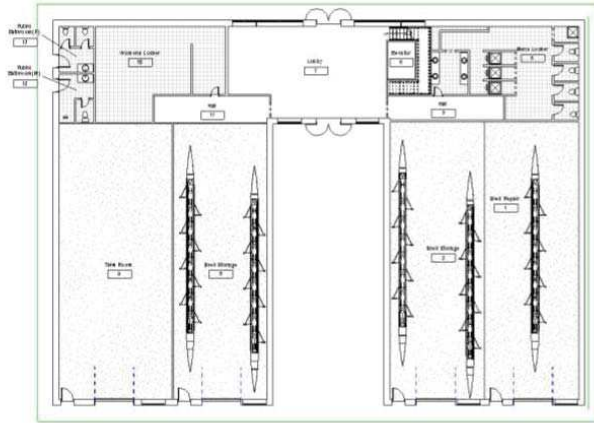
Scholarship winner, Gianna Lozano, with Dr. John Wolbeck, Katie Chevalier, and Erik Collier (right)



1st Floor - Floor Plan

1st Floor includes:

- Men's and Women's Locker
- Shell Storage 1 and 2
- Shell Repair
- Tank Room
- Elevator
- Great Staircase
- Men's Bathroom
- Women's Bathroom



2nd Floor - Floor Plan

2nd Floor Includes:

- Men's and Women's Bathroom
- Workout/Meeting Room
- Erg Room
- Team Office
- The Bridge Hallways
- The upper Lobby



Proposed first and second floor plans of a new boathouse for the NFA Crew Team, developed by student Daniel Eastman and his team's #1 Designs

To wrap up the evening, a raffle held for participating students to win a scholarship to attend a week long architecture camp at SUNY Orange, generously provided by Collier Construction. The scholarship provided Gianna Lozano, a junior at Clarkstown South High School, the



Team Newburgh student Daniel Eastman working with his team on the Marshmallow Challenge

opportunity to attend this exciting camp and continue to develop her industry interests into the summer months.

A Student Perspective

Daniel Eastman, an upcoming senior at Arlington High School, participated on Team Newburgh. With his prior knowledge of Revit, Dan assumed the role of team leader for his group's boathouse design. He was fortunate to take architecture and engineering classes offered at his high school, but also recognizes the benefit of real-world project experience with design professionals that ACE provides. He says, "ACE supplemented what I learned in class with a group project from concept to plans where ACE mentors provided guidance throughout, concluding with

team presentations of our plans to working professionals. I learned about leadership as the team leader of the group project."

Dan also found value in connecting with his peers from other schools, as well as networking opportunities with his mentors. Dan offered the following advice to students, "If you think you may have an interest in Architecture, Construction, or Engineering you should participate in ACE. You will meet friends who have similar interests from other schools. You will also meet mentors in the field who are willing to help you through your ACE project and provide guidance on education and internships. The people you met may be your co-workers in your future career."

Benefits of ACE

One of the greatest rewards that I see from the program is that the relationships formed in ACE do not end upon high school graduation. As an ACE student, I was able to maintain contact with my mentors throughout college and as I entered the profession of architecture. In fact, I was fortunate enough to land a summer internship during college and my first job out of college through my relationship with my ACE mentors, many of which still remain professional mentors for me to this day!

Not only does ACE provide students with networking opportunities, it also benefits the companies involved with mentoring by giving them the chance to develop relationships with ACE students. When it comes time for those students to start looking for a job, they will already have connections with those same companies through their experience with ACE, giving the companies involved with ACE a leg up against their competitors who may also be looking to hire qualified young professionals. ACE students earn real world experience before entering college, making them valuable candidates for employment in the industry.

Leaders in the industry should also recognize the many benefits of encouraging and supporting staff to volunteer their time as an ACE mentor. In addition to the value that mentors provide to their students, the mentors themselves receive many benefits. Mentoring is an

inherent networking opportunity with local professionals throughout the industry, providing connections with potential clients, consultants, new employees, and interns. Mentoring also provides excellent leadership training and the opportunity to refine public speaking and presentation skills, those of which are critical skills for success in this industry.

Get Involved in the Hudson Valley

One of the biggest misconceptions about ACE is the time required to participate and support the program. While we are always looking for full-time mentors who can attend most sessions throughout the duration of the school year, there are many other ways to get involved with ACE and give back to your local community.

One option is to donate your time for one or two sessions as a guest presenter. ACE students benefit in hearing from a range of professionals in various stages of their careers industry-wide. There are many different players in the design and

construction process and we encourage everyone to get involved with ACE in order to create a well-rounded educational experience for the students, even if your time is limited and you can only commit to one session.

Another opportunity is to provide support in the form of sponsorship. ACE is a comprehensive mentor program offered at no cost to students, and there are many expenses that each affiliate has to cover in order to make the program successful. Even if you are not directly involved in the industry, making a monetary contribution to your local affiliate is a meaningful way to pay it forward in your community. ACE Hudson Valley is currently accepting company-sponsored student scholarships as well.

A goal of the newly formed Hudson Valley affiliate is to have at least one team in each of the six counties that we serve, in order to provide this invaluable opportunity to as many students as possible throughout our region. To achieve this goal, we need to gain more awareness and

support around the Hudson Valley.

During the first year of our affiliate, over 70% of our local students expressed an interest in pursuing a career in architecture. There is no one better to inspire a new generation to start careers in our industry than the professionals currently shaping it. If you are interested in getting involved as a mentor, sponsor, board member, or just want to share ideas for the program, please see below for my contact information.

No matter your professional role, there is a way for you to get involved and make a difference for the next generation of design and construction industry leaders while helping to ensure the workforce of tomorrow!

Katie Chevalier, AIA is the Vice Chairman of the ACE Mentor Program of Hudson Valley NY. Most recently, Ms. Chevalier has been appointed to serve as the Director of Regional Programs (Northeast/Mid-Atlantic) for the ACE Mentor Program of America. Contact Katie at kchevalier@acementor.org to learn more and get involved.



ACE Hudson Valley students celebrating their achievements at the final presentation event in Middletown.